

ABSTRACT OF THE DISCLOSURE

5 An alpha-amylase enzyme obtained from *Bacillus acidocaldarius* species is utilized to liquefy starch at a pH as low as 3.0 without the need to add thermostabilizing agents such as calcium. The alpha-amylase produces acceptable DE yields in a single liquefaction step and does not need to be inactivated prior to conducting saccharification which can proceed without adjustment of the pH of the liquefact. Alternatively, a secondary liquefaction process can be utilized, in which case two additions of the alpha-amylase are used resulting in a combined low dosage of the enzyme.

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